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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/715,746

11/17/2000

Kevin Lefebvre

10005273-1

6970

7590

09/03/2004

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
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EXAMINER

TUNG, KEE M

ART UNIT

PAPER NUMBER

2676

DATE MAILED: 09/03/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/715,746

Applicant(s)

LEFEBVRE ET AL.

Examiner

Kee M Tung

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16, 17 and 19-43 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 3, 4, 7, 9, 11, 13, 16, 19, 21, 23-37, 41 and 42 is/are rejected.
7) ☒ Claim(s) 2, 5, 6, 8, 10, 12, 14, 17, 20, 22, 38-40 and 43 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The response filed 6/28/04 has been considered in preparing this Office action.
2. As per claim 1, line 7, "said one display device" should be --said one of said plurality of display devices--. Corrections are also required for claim 28, lines 2 and 4. It is noted that the examiner interpreted the "said one display device" as one of the plurality of display devices, not the single logical screen.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 4, 7, 9, 11, 13, 16, 19, 21, 23-37, and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Firester et al (6,611,241 hereinafter "Firester") in view of Molnar et al (PixelFlow: High-speed rendering using image composition, hereinafter "Molnar").

Firester teaches a single logical screen (SLS) graphical display system (Figs. 1, 2, 15, 16, 18 and 19) comprising an interface (such as, image server 106) configured to receive graphical data defining an image; a plurality of display devices (Figs. 1, 15 and 16); and a plurality of graphical acceleration units (such as, IP1-IP4), each of said plurality of graphical acceleration units respectively interfaced with one of said plurality of display devices and configured to render a portion of said graphical data to said one display device such that said display devices display said image as a single logical

screen (col. 17, line 31 to col. 18, line 5). Firester further teaches application computer (750) sends image data and operator graphics commands via digital data bus (752) to all the image processor computers (720). Alternatively, application computer 750 may be replaced by a direct connection to an Ethernet or other network 751. However, Firester fails to explicitly suggest or teach at least one of said graphical acceleration unit comprises a first and a second graphical pipelines. This is what Molnar teaches. Molnar teaches an architecture for high-speed image generation uses the technique of image composition: it distributes the rendering task over an array of identical renderers (Fig. 1(b)), each of which computes a **full-screen image of a fraction of the primitives** (abstract). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the teachings of Molnar into the system of Firester in order to provide a high speed image generation system uses high performance image composition network to produce an image in real time as taught by Molnar (abstract). Therefore, at least claims 1, 3, 4, 7, 9, 11, 13, 16, 19, 21, 23-37, and 41-42 would have been obvious.

Allowable Subject Matter

5. Claims 2, 5, 6, 8, 10, 12, 14, 17, 20, 22, 38-40 and 43 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed 6/28/04 have been fully considered but they are not persuasive.

Basically, applicant argues that since both Firester and Molnar teach or suggest multiple processors to render different portions of a same/single image. There is no "high speed" advantage from Molnar over Firester. Well, it is true that both teach a high speed processing system. But, in addition to multiple processors, Molnar teaches the details of the graphics accelerator which is missed in Firester, such as, parallel-pipeline processing system which in other words further increase the processing speed than Firester alone.

In response to applicant's argument of there is no disadvantage of Firester which would prompt the combination of select teachings of Molnar therewith. It is noted that Firester does not have the details of the image processor which includes pipeline processing.

7. In response to applicant's argument of "said graphical data rendered by said first graphical pipeline entirely defines said image to be displayed by said one display device interfaced with said compositor". It is noted that since the one display device is considered as one of the plurality of display device, thus the entirely defined image is only a portion of the whole image where the whole image displayed on the single logical display. If applicant argues the said one display device is the single logical screen display, the examiner requests applicant to point to the specification for the particular support. Since the examiner interpreted the "said one display device" as one of the

plurality of display devices, not the single logical screen, the claim clearly read by the teachings of portion of image of both Molnar and Firester.

Conclusion

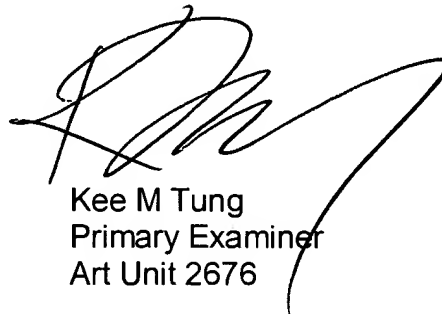
8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kee M Tung whose telephone number is 703-305-9660. The examiner can normally be reached on Tuesday - Friday from 5:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 703-308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kee M Tung
Primary Examiner
Art Unit 2676